OIPE

RAW SEQUENCE LISTING   DATE: 12/17/2001
PATENT APPLICATION: US/10/005,691   TIME: 11:08:42

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\12172001\J005691.raw

```
     4 <110> APPLICANT: DUCKWORTH, DAVID
     5         MICHALOVICH, DAVID
     7 <120> TITLE OF INVENTION: NOVEL USE
    10 <130> FILE REFERENCE: GH-30003-D1
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/005,691
C--> 13 <141> CURRENT FILING DATE: 2001-11-08
    15 <150> PRIOR APPLICATION NUMBER: 09/107,847
    16 <151> PRIOR FILING DATE: 1998 06 30
    18 <150> PRIOR APPLICATION NUMBER: EP 97304996.8
    19 <151> PRIOR FILING DATE: 1997-07-08
    21 <160> NUMBER OF SEQ ID NOS: 2
    23 <170> SOFTWARE: FastSEQ for Windows Version 3.0
    25 <210> SEQ ID NO: 1
    26 <211> LENGTH: 5715
    27 <212> TYPE: DNA
    28 <213> ORGANISM: HOMO SAPIENS
    30 <400> SEQUENCE: 1
    31 agctgattct atcacattgt aagatgcctt tggataattc tacagtcctc ttaaatgaat     60
    32 ctttagaact tggcaagtct cactagatac cttcaatcat cattttgagc tcaaagaatt    120
    33 ctgagactta tggttggtca tatagaagag gaccttgaac ctatagtttc ctgaagaatc    180
    34 agtttaaaag atccaaggag tacaaaagga gaagtacaaa tgtctactac aagacgaaaa    240
    35 cgtagtatgt tatgttgttt accgtaagct gtagtaaaat gagctcgatt gttgacagag    300
    36 atgacagtag tattttttgat gggttggtgg aagaagatga caaggacaaa gcgaaaagag    360
    37 tatctagaaa caaatctgaa aagaaacgta gagatcaatt taatgttctc attaaagaac    420
    38 tgggatccat gcttcctggt aatgctagaa agatggacaa atctactgtt ctgcagaaaa    480
    39 gcattgattt tttacgaaaa cataaagaaa tcactgcaca gtcagatgct agtgaaattc    540
    40 gacaggactg gaaacctaca ttccttagta atgaagagtt tacacaatta atgttagagg    600
    41 ctcttgatgg ttttttttta gcaatcatga cagatggaag cataatatat gtgtctgaga    660
    42 gtgtaacttc attacttgaa catttaccat ctgatcttgt ggatcaaagt atatttaatt    720
    43 ttatcccaga aggggaacat tcagaggttt ataaaatact ctctactcat ctgctggaaa    780
    44 gtgattcatt aacccccagaa tatttaaaat caaaaaatca gttagaattc tgttgtcaca    840
    45 tgctgcgagg aacaatagac ccaaaggagc catctaccta tgaatatgta aaatttatag    900
    46 gaaatttcaa atctttaaac agtgtatcct cttcagcaca caatggtttt gaaggaacta    960
    47 tacaacgcac acataggcca tcttatgaag atagagtttg ttttgtagct actgtcaggt   1020
    48 tagctacacc tcagttcatc aaggaaatgt gcactgttga agaacccaat gaagagttta   1080
    49 catctagaca tagtttagaa tggaagtttc tgtttctaga tcacagggca ccacccataa   1140
    50 tagggtattt gccatttgaa gttctgggaa catcaggcta tgattactat catgtggatg   1200
    51 acctagaaaa tttggcaaaa tgtcatgagc acttaatgca atatgggaaa ggcaaatcat   1260
    52 gttattatag gttcctgact aagggcaac agtggatttg gcttcagact cattattata   1320
    53 tcacttacca tcagtggaat tcaaggccag agtttattgt ttgtactcac actgtagtaa   1380
    54 gttatgcaga agttaggct gaaagacgac gagaacttgg cattgaagag tctcttcctg   1440
    55 agacagctgc tgacaaaagc caagattctg ggtcagataa tcgtataaac acagtcagtc   1500
    56 tcaaggaagc attggaaagg tttgatcaca gcccaacccc ttctgcctct tctcggagtt   1560
    57 caagaaaatc atctcacacg gccgtctcag acccttcctc aacaccaacc aagatcccga   1620
    58 cggatacgag cactccaccc aggcagcatt taccagctca tgagaagatg gtgcaaagaa   1680
    59 ggtcatcatt tagtagtcag tccataaatt cccagtctgt tggttcatca ttaacacagc   1740
    60 cagtgatgtc tcaagctaca aatttaccaa ttccacaagg catgtcccag tttcagtttt   1800
```

RAW SEQUENCE LISTING   DATE: 12/17/2001
PATENT APPLICATION: US/10/005,691   TIME: 11:08:42

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\12172001\J005691.raw

```
 61 cagctcaatt aggagccatg caacatctga aagaccaatt ggaacaacgg acacgcatga  1860
 62 tagaagcaaa tattcatcgg caacaagaag aactaagaaa aattcaagaa caacttcaga  1920
 63 tggtccatgg tcaggggctg cagatgtttt tgcaacaatc aaatcctggg ttgaattttg  1980
 64 gttccgttca actttcttct ggaaattcat ctaacatcca gcaacttgca cctataaata  2040
 65 tgcaaggcca agttgttcct actaaccaga ttcaaagtgg aatgaatact ggacacattg  2100
 66 gcacaactca gcacatgata caacaacaga ctttacagag tacatcaact cagagtcaac  2160
 67 aaaatgtact gagtgggcac agtcagcaaa catctctacc cagtcagaca cagagcactc  2220
 68 ttacagcccc actgtataac actatggtga tttctcagcc tgcagccgga agcatggtcc  2280
 69 agattccatc tagtatgcca caaaacagca cccagagtgc tgcagtaact acattcactc  2340
 70 aggacaggca gataagattt tctcaaggtc aacaacttgt gaccaaatta gtgactgctc  2400
 71 ctgtagcttg tggggcagtc atggtaccta gtactatgct tatgggccag gtggtgactg  2460
 72 catatcctac ttttgctaca caacagcaac agtcacagac attgtcagta acgcagcagc  2520
 73 agcagcagca gagctcccag gagcagcagc tcacttcagt tcagcaacca tctcaggctc  2580
 74 agctgaccca gccaccgcaa caatttttac agacttctag gttgctccat gggaatccct  2640
 75 caactcaact cattctctct gctgcatttc ctctacaaca gagcaccttc cctcagtcac  2700
 76 atcaccagca acatcagtct cagcaacagc agcaactcag ccggcacagg actgacagct  2760
 77 tgcccgaccc ttccaaggtt caaccacagt agcacacgtg cttcctctct tgacatcaag  2820
 78 ggaggaaggg gatggcccat taagagttac tcagatgacc tgaggaaagg agggaaagtt  2880
 79 ccagcagttt catgagatgc agtattgagt gttctagttc ctggaattag ttggcagaga  2940
 80 aaatgctgcc tagtgctaca gatgtacatt aaataccagc cagcaggagg tgatcatagg  3000
 81 ggcacagcca gttctgacag tgttttaggt gcctggatat tttttgatgg aaaaagaata  3060
 82 tattgccaaa tattaagaag ctcagctatg aaatgacctc cagggaatca gaaaggcact  3120
 83 aatgatgtta gtaacttta gtggttctgt gcctcttatc aagtgttaca gaggacatac  3180
 84 cactgccatg tcaggggttt gcttacagtg atgccatgaa gacagtccag tagacttggt  3240
 85 agcgaccccc tcccccaacc cctctccctt ttcagataat gatggaacag taattacttt  3300
 86 cagaatgttg tgtgggttca aattctctat gtacagatga tgtaaaaata tgtatatgtc  3360
 87 tagataaaag gagagaaagc aaaacatttt gtatgctgca tgaaagcgtt atctcttcct  3420
 88 tacaggtgtg agcacctttc ctgaaattct gacaccatgt gcaaactgat ccatcctgtt  3480
 89 tttccttttg tttacaacac agtagtgttc tgttcacttt tccggggcac aagttttttt  3540
 90 gttcatactt tggctgtgat gtcacagttt gttcagtgag gtatgatgtg ctgctgggaa  3600
 91 tggattttt tttttcaggt taaattattg atacaacagg attttcaagt tattcagaaa  3660
 92 tatccctcat ttcattattt ttcaattatg tttgaaaata ggatttgcac tgctttattt  3720
 93 taggtggctg ggagttttga ttgcatattt tgttatagtt catagttgga aatatttgcg  3780
 94 taaatggttt tcaacaagcc tgaaagtaat ttcaagaatg tttcagttat agaggtaaaa  3840
 95 tttgcacaca aaacatctta ggcacttttt aacattctca atcatgggaa tttttaacttt  3900
 96 tgggatttgt tgaaatcttt tttattatcc ttcacaattt caatgcttct tttagtcaga  3960
 97 aatgattcag ggttatttga ggggaaaaaa ccccatagtg ccttgatttt aattcaggtg  4020
 98 ataactcacc atcttgaagt cattgtccgg tttccgtagc agttttgaaa ccttagtacc  4080
 99 tttttaacag catgtgggtg tcagtgtcat tattagtctc ctaataagtt cctctgaaga  4140
100 ctgctatcag tctcttggac tggagttaca aataatttag aaataaaaga tgataaccta  4200
101 acactatcat agttattaat gtgatcctaa aattgtttcc taaatcagca ttttctttta  4260
102 gtcatttaag aatttaccag aaatatttgc tcaatatgat cttgatattc ctacaaagaa  4320
103 aaaagaaggg gtagggattt ggctatgcct tcactacaac attagaatat tgtaactcac  4380
104 atgccttcta aacgtgaact aagatttcct ttggcaatat catattctaa agtaataaa  4440
105 ttccaataca agttacatac atttaaaaaa cattttacag attttatggt actaatgaaa  4500
106 tttacagtga tagaacaaaa gaggattagt agaaaataca ttattagaat ataaaaaatg  4560
107 ttattactga ggaaagggag gagaggacaa gtgtaataaa tcaaaattga cctcaaaaga  4620
108 aaatgtgtaa cagagttgag gttgttaaaa cagaaaaggt tctgaataat gaagattaac  4680
109 ctaatgcaga attgctaggt aaagaggtca ggggaatgct aagccagttc ttaagacttc  4740
```

RAW SEQUENCE LISTING   DATE: 12/17/2001
PATENT APPLICATION: US/10/005,691   TIME: 11:08:42

Input Set : **A:\Seqlist.txt**
Output Set: **N:\CRF3\12172001\J005691.raw**

```
110 tctgtcctct gctttgctgt tatccttaag gcatatactt tgtctttctg cagaaaattc   4800
111 tacctggcta caattacttt gaacattaat gttgaaaaag aaaacaacca aagaaaattg   4860
112 gtacttaccc ttctacaaaa gaagtgtgac tagatatcaa tcagtaatta acatatcaag   4920
113 gagctcttct agctaaatga ccatccagta gagatttccc acattcccat gaatatcaag   4980
114 aatagttgtc agaatatgta tgtacctgag catatgtaca cagacaaggg ggatgttgtg   5040
115 gaatatggca atagcattgt tcttctcccc tttcaaattg cctttcttga ccttatgcca   5100
116 ttccatatat atctgagttg tgcctcattt atttattggc aatacctagt gatacggatt   5160
117 tagctaacaa aagatatgaa gaactattat attgaggcct gtcctctaca taccacactt   5220
118 aaaagatggt gaactgtgag tactacttag gttgacagca acaaagcata agacaagccc   5280
119 caggtaaacg tctaaactgt ttactacat tgtcctactc cagcccctte aattatttcc   5340
120 catctccaca aatagtcggg ggaaaaaatt aaaattttcc tttatgattc ttactgttct   5400
121 tcgcagctca tcttttcctg cttagaatta accattgcta atttaaagga gcagctagct   5460
122 gcttttctgt cagtctgaag cgtagtagtg gaagaggtag taagcaccag ctgcctcttt   5520
123 gctgctttgt tttcctcctg attctcttaa atttgggttg caaagctatc ccgcccccca   5580
124 ccctgcccca tgaaacttga gcattcaaat gaagattcag cagtgtctgt tcttcatttc   5640
125 tatagccaaa gctgttagtt aaaatcccaa atctatagca tttaaagata ccaaatagaa   5700
126 acaccttcca gcttt                                                     5715
130 <210> SEQ ID NO: 2
131 <211> LENGTH: 846
132 <212> TYPE: PRT
133 <213> ORGANISM: HOMO SAPIENS
135 <400> SEQUENCE: 2
136 Met Leu Phe Thr Val Ser Cys Ser Lys Met Ser Ser Ile Val Asp Arg
137  1               5                   10                  15
138 Asp Asp Ser Ser Ile Phe Asp Gly Leu Val Glu Glu Asp Asp Lys Asp
139              20                  25                  30
140 Lys Ala Lys Arg Val Ser Arg Asn Lys Ser Glu Lys Lys Arg Arg Asp
141          35                  40                  45
142 Gln Phe Asn Val Leu Ile Lys Glu Leu Gly Ser Met Leu Pro Gly Asn
143      50                  55                  60
144 Ala Arg Lys Met Asp Lys Ser Thr Val Leu Gln Lys Ser Ile Asp Phe
145 65                  70                  75                  80
146 Leu Arg Lys His Lys Glu Ile Thr Ala Gln Ser Asp Ala Ser Glu Ile
147              85                  90                  95
148 Arg Gln Asp Trp Lys Pro Thr Phe Leu Ser Asn Glu Glu Phe Thr Gln
149             100                 105                 110
150 Leu Met Leu Glu Ala Leu Asp Gly Phe Phe Leu Ala Ile Met Thr Asp
151         115                 120                 125
152 Gly Ser Ile Ile Tyr Val Ser Glu Ser Val Thr Ser Leu Leu Glu His
153         130                 135                 140
154 Leu Pro Ser Asp Leu Val Asp Gln Ser Ile Phe Asn Phe Ile Pro Glu
155 145                 150                 155                 160
156 Gly Glu His Ser Glu Val Tyr Lys Ile Leu Ser Thr His Leu Leu Glu
157             165                 170                 175
158 Ser Asp Ser Leu Thr Pro Glu Tyr Leu Lys Ser Lys Asn Gln Leu Glu
159             180                 185                 190
160 Phe Cys Cys His Met Leu Arg Gly Thr Ile Asp Pro Lys Glu Pro Ser
161             195                 200                 205
162 Thr Tyr Glu Tyr Val Lys Phe Ile Gly Asn Phe Lys Ser Leu Asn Ser
```

```
163        210                     215                     220
164   Val Ser Ser Ser Ala His Asn Gly Phe Glu Gly Thr Ile Gln Arg Thr
165   225                     230                     235                     240
166   His Arg Pro Ser Tyr Glu Asp Arg Val Cys Phe Val Ala Thr Val Arg
167                     245                     250                     255
168   Leu Ala Thr Pro Gln Phe Ile Lys Glu Met Cys Thr Val Glu Glu Pro
169                     260                     265                     270
170   Asn Glu Glu Phe Thr Ser Arg His Ser Leu Glu Trp Lys Phe Leu Phe
171               275                     280                     285
172   Leu Asp His Arg Ala Pro Pro Ile Ile Gly Tyr Leu Pro Phe Glu Val
173               290                     295                     300
174   Leu Gly Thr Ser Gly Tyr Asp Tyr Tyr His Val Asp Asp Leu Glu Asn
175   305                     310                     315                     320
176   Leu Ala Lys Cys His Glu His Leu Met Gln Tyr Gly Lys Gly Lys Ser
177                     325                     330                     335
178   Cys Tyr Tyr Arg Phe Leu Thr Lys Gly Gln Gln Trp Ile Trp Leu Gln
179               340                     345                     350
180   Thr His Tyr Tyr Ile Thr Tyr His Gln Trp Asn Ser Arg Pro Glu Phe
181               355                     360                     365
182   Ile Val Cys Thr His Thr Val Val Ser Tyr Ala Glu Val Arg Ala Glu
183               370                     375                     380
184   Arg Arg Arg Glu Leu Gly Ile Glu Glu Ser Leu Pro Glu Thr Ala Ala
185   385                     390                     395                     400
186   Asp Lys Ser Gln Asp Ser Gly Ser Asp Asn Arg Ile Asn Thr Val Ser
187               405                     410                     415
188   Leu Lys Glu Ala Leu Glu Arg Phe Asp His Ser Pro Thr Pro Ser Ala
189               420                     425                     430
190   Ser Ser Arg Ser Ser Arg Lys Ser Ser His Thr Ala Val Ser Asp Pro
191               435                     440                     445
192   Ser Ser Thr Pro Thr Lys Ile Pro Thr Asp Thr Ser Thr Pro Pro Arg
193               450                     455                     460
194   Gln His Leu Pro Ala His Glu Lys Met Val Gln Arg Arg Ser Ser Phe
195   465                     470                     475                     480
196   Ser Ser Gln Ser Ile Asn Ser Gln Ser Val Gly Ser Ser Leu Thr Gln
197               485                     490                     495
198   Pro Val Met Ser Gln Ala Thr Asn Leu Pro Ile Pro Gln Gly Met Ser
199               500                     505                     510
200   Gln Phe Gln Phe Ser Ala Gln Leu Gly Ala Met Gln His Leu Lys Asp
201               515                     520                     525
202   Gln Leu Glu Gln Arg Thr Arg Met Ile Glu Ala Asn Ile His Arg Gln
203               530                     535                     540
204   Gln Glu Glu Leu Arg Lys Ile Gln Glu Gln Leu Gln Met Val His Gly
205   545                     550                     555                     560
206   Gln Gly Leu Gln Met Phe Leu Gln Gln Ser Asn Pro Gly Leu Asn Phe
207               565                     570                     575
208   Gly Ser Val Gln Leu Ser Ser Gly Asn Ser Ser Asn Ile Gln Gln Leu
209               580                     585                     590
210   Ala Pro Ile Asn Met Gln Gly Gln Val Val Pro Thr Asn Gln Ile Gln
211               595                     600                     605
```

RAW SEQUENCE LISTING   DATE: 12/17/2001
PATENT APPLICATION: US/10/005,691   TIME: 11:08:42

Input Set : A:\Seqlist.txt
Output Set: N:\CRF3\12172001\J005691.raw

```
212  Ser Gly Met Asn Thr Gly His Ile Gly Thr Thr Gln His Met Ile Gln
213      610             615             620
214  Gln Gln Thr Leu Gln Ser Thr Ser Thr Gln Ser Gln Gln Asn Val Leu
215  625             630             635             640
216  Ser Gly His Ser Gln Gln Thr Ser Leu Pro Ser Gln Thr Gln Ser Thr
217              645             650             655
218  Leu Thr Ala Pro Leu Tyr Asn Thr Met Val Ile Ser Gln Pro Ala Ala
219              660             665             670
220  Gly Ser Met Val Gln Ile Pro Ser Ser Met Pro Gln Asn Ser Thr Gln
221          675             680             685
222  Ser Ala Ala Val Thr Thr Phe Thr Gln Asp Arg Gln Ile Arg Phe Ser
223      690             695             700
224  Gln Gly Gln Gln Leu Val Thr Lys Leu Val Thr Ala Pro Val Ala Cys
225  705             710             715             720
226  Gly Ala Val Met Val Pro Ser Thr Met Leu Met Gly Gln Val Val Thr
227              725             730             735
228  Ala Tyr Pro Thr Phe Ala Thr Gln Gln Gln Gln Ser Gln Thr Leu Ser
229          740             745             750
230  Val Thr Gln Gln Gln Gln Gln Gln Ser Ser Gln Glu Gln Gln Leu Thr
231          755             760             765
232  Ser Val Gln Gln Pro Ser Gln Ala Gln Leu Thr Gln Pro Pro Gln Gln
233      770             775             780
234  Phe Leu Gln Thr Ser Arg Leu Leu His Gly Asn Pro Ser Thr Gln Leu
235  785             790             795             800
236  Ile Leu Ser Ala Ala Phe Pro Leu Gln Gln Ser Thr Phe Pro Gln Ser
237              805             810             815
238  His His Gln Gln His Gln Ser Gln Gln Gln Gln Gln Leu Ser Arg His
239          820             825             830
240  Arg Thr Asp Ser Leu Pro Asp Pro Ser Lys Val Gln Pro Gln
241          835             840             845
```

VERIFICATION SUMMARY   DATE: 12/17/2001
PATENT APPLICATION: US/10/005,691   TIME: 11:08:43

Input Set : **A:\Seqlist.txt**
Output Set: **N:\CRF3\12172001\J005691.raw**

L:12 M:270 C: Current Application Number differs, Replaced Current Application Number
L:13 M:271 C: Current Filing Date differs, Replaced Current Filing Date

RECEIVED
JAN 1 8 2002
TECH CENTER 1600/2900